

REMARKS

In the Office Action dated November 21, 2002, claims 1 and 4 were rejected under 35 U.S.C. § 102 over U.S. Patent No. 3,812,912 (Wuenschel); claim 1 was rejected under § 102 over U.S. Patent No. 6,056,059 (Ohmer); claims 1 and 11 were rejected under § 102 over U.S. Patent No. 6,431,282 (Bosma); and claims 2, 3, and 5-10 were rejected under § 103 over Wuenschel or Ohmer.

Wuenschel does not disclose any element formed of a superplastic material. The Office Action cited to line 47 of column 5, which discloses an aluminum liner 14 that can withstand an axial strain of 180% before failure. The Office Action asserted that this satisfies the criteria for superplasticity. Applicant disagrees. The aluminum liner 14 of Wuenschel is not formed of a superplastic material.

Bosma also fails to teach any element formed of a superplastic material. The Office Action seemed to have equated a thermoplastic material with a superplastic material. The two are not the same.

As there is no suggestion of the use of superplastic materials, it is respectfully submitted that Wuenschel also does not render obvious the subject matter of claims 2, 3, 5-10.

Ohmer also does not teach or suggest the recited elements. The Office Action stated that Applicant has failed to demonstrate the criticality of superplastic material with respect to the various elements. Applicant respectfully submits that demonstrating the criticality of superplastic material in the various elements is not necessary for purposes of establishing non-obviousness. The Office Action failed to make a *prima facie* case of obviousness. All that was provided in the Office Action was the statement that the apparatus of claims 2, 3, and 5-10 are obvious over Ohmer, without any support for the statement.

The present application describes potential advantages offered by superplastic material in various downhole devices. Such potential advantages over prior art devices provide a clear indication of non-obviousness.

In view of the foregoing, it is respectfully submitted that the present claims are allowable over the cited references. Allowance of all claims is respectfully requested.

The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 20-1504 (SHL.0102US).

Respectfully submitted,

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VERSION WITH MARKINGS TO INDICATE CHANGES

Claims 1 and 12-26 are cancelled. New claims 27-43 have been added. Amend the following claims where indicated (un-amended claims in smaller font)

1 2. (Amended) [The apparatus of claim 1, further comprising] An apparatus
2 for use in a wellbore, comprising:

3 an element formed of a superplastic material to perform a predetermined
4 downhole task; and

5 a component including a seal engageable with the element.

1 3. (Amended) [The apparatus of claim 1, further comprising] An apparatus
2 for use in a wellbore, comprising:

3 an element formed of a superplastic material to perform a predetermined
4 downhole task; and

5 a component including an anchor actuatable by the element.

1 4. (Amended) [The apparatus of claim 1] An apparatus for use in a wellbore,
2 comprising:

3 an element formed of a superplastic material to perform a predetermined
4 downhole task,

5 wherein the element is selected from the group consisting of a casing, a
6 liner, a tubing, and a pipe.

1 5. (Amended) [The apparatus of claim 1] An apparatus for use in a wellbore,
2 comprising:

3 an element formed of a superplastic material to perform a predetermined
4 downhole task,

5 wherein the element includes a sand screen.

1 6. (Amended) [The apparatus of claim 1, further comprising] An apparatus
2 for use in a wellbore, comprising:

3 an element formed of a superplastic material to perform a predetermined
4 downhole task; and

5 a shock absorber including the element.

1 7. (Amended) [The apparatus of claim 1, further comprising] An apparatus
2 for use in a wellbore, comprising:

3 an element formed of a superplastic material to perform a predetermined
4 downhole task; and

5 a releasable connector mechanism including the element.

1 8. (Amended) [The apparatus of claim 1, further comprising] An apparatus
2 for use in a wellbore, comprising:

3 an element formed of a superplastic material to perform a predetermined
4 downhole task; and

5 an explosive component including the element.

1 9. The apparatus of claim 8, wherein the explosive component includes a
2 shaped charge.

1 10. (Amended) [The apparatus of claim 1, further comprising] An apparatus
2 for use in a wellbore, comprising:

3 an element formed of a superplastic material to perform a predetermined
4 downhole task; and

5 a weak point connector including the element.

1 11. (Amended) [The apparatus of claim 1, further comprising] An apparatus
2 for use in a wellbore, comprising:
3 an element formed of a superplastic material to perform a predetermined
4 downhole task; and
5 a heating device to heat the element to a temperature sufficient to cause
6 the element to exhibit superplastic behavior.

1 27. (New) The apparatus of claim 2, wherein the element is adapted to
2 translate the seal into engagement with a downhole structure.

1 28. (New) The apparatus of claim 27, comprising a packer.

1 29. (New) The apparatus of claim 27, comprising a patch.

1 30. (New) The apparatus of claim 27, further comprising a heating device to
2 heat the superplastic material to a temperature such that the element exhibits superplastic
3 behavior.

1 31. (New) The apparatus of claim 30, further comprising a piston adapted to
2 cause translation of the element.

1 32. (New) The apparatus of claim 30, wherein the heating device comprises a
2 propellant.

1 33. (New) The apparatus of claim 2, further comprising a conduit, wherein the
2 element comprises a plug to block fluid flow in a bore of the conduit.

1 34. (New) The apparatus of claim 33, further comprising a port to
2 communicate fluid pressure to deform the plug inwardly to enable movement of the plug.

1 35. (New) The apparatus of claim 3, wherein the component comprises a
2 packer including the anchor.

1 36. (New) The apparatus of claim 35, wherein the packer further comprises a
2 seal,
3 wherein the element comprises one or more sleeves attached to the anchor
4 and the seal, the one or more sleeves adapted to translate the anchor and seal into
5 engagement with a downhole structure.

1 37. (New) The apparatus of claim 4, further comprising a heating device to
2 heat the element to a temperature such that the element exhibits superplastic behavior.

1 38. (New) The apparatus of claim 5, further comprising a heating device to
2 heat the sand screen to a temperature such that the sand screen exhibits superplastic
3 behavior.

1 39. (New) The apparatus of claim 11, wherein the heating device comprises a
2 propellant.

1 40. (New) An apparatus for use in a wellbore, comprising:
2 an element formed of a superplastic material to perform a predetermined
3 downhole task; and
4 a fishing tool for a downhole conduit structure, the fishing tool comprising
5 the element.

1 41. (New) The apparatus of claim 40, wherein the element is adapted to
2 expand to engage an inner well of the conduit structure.

1 42. (New) An apparatus for use in a wellbore, comprising:
2 an element formed of a superplastic material to perform a predetermined
3 downhole link; and
4 a junction seal assembly comprising the element.

1 43. (New) The apparatus of claim 42, wherein the element comprises one of a
2 tubing and pipe to be inserted into a lateral wellbore.